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## (54) IMPROVEMENTS IN OR RELATING TO SOFT TOYS

(71) We, NEWFELD LIMITED, a British Company, of Newfoam Works, Spelthorne Lane, Ashford, Middlesex, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to soft toys, and in particular to soft toys having a generally humanoid or animal-like form, intended for children.

One known method for making animal- or human-like soft toys for children, which has been practised for many years, is to mould a foamed natural or synthetic rubber latex material over a relatively stiff but flexible wire frame or skeleton. The mould for the foamed latex material may take any desired form, but typically includes a torso portion, arm and leg portions and a head portion, the arm and leg portions respectively including hand and foot sections, or paw sections, as required. The completed toy is then generally soft to the touch, by virtue of the resilient characteristics of the foamed natural or synthetic rubber latex material, and yet may be deformed to take up a required attitude. The toy moreover tends to remain in such an attitude, by virtue of the wire skeleton. Soft toys manufactured by this process are usually finished by painting directly on the outer surface of the foamed natural or synthetic rubber latex material and of course the toys may be dressed with clothing if required.

It is a disadvantage of the above known manufacturing method for soft toys that the production of appropriate moulds for the foamed natural or synthetic rubber latex material is a skilled, time consuming task, and is thus very expensive. If a manufacturer wishes to produce a range of animal- or human-like soft toys all generally similar but having different characteristics — for

instance, soft toys of generally the same size and shape but having different facial characteristics such as the face of a human, the face of a rabbit, the face of a dog and so on — a separate mould is required for each toy in the range. Moreover, if it is desired slightly to change a design, often a completely new mould must be produced. A further disadvantage of the known method described above is that the painting on the foamed material to finish the toy has to be done by hand, and a labour-intensive process such as this is very expensive to perform in the climate of the modern toy-making industry.

It is a principal aim of this invention to produce a soft toy utilising a foamed latex material, but which allows the production of a range of similar toys without all the attendant disadvantages of the known processes discussed above.

According to this invention, there is provided a soft toy comprising a body and a fabric covering, the body having a torso, four limb portions and a neck portion formed by moulding a foamed natural or synthetic rubber latex material over a flexible wire skeleton, and the fabric covering being permanently fitted over the body and including hand and foot members at the respective ends of the limb portions and a shaped head member which fits over the neck portion, the hand, foot and head members being stuffed with a stuffing material such that the hand, foot and head members hold a desired, pre-formed shape dictated by the fabric covering.

It will be appreciated that with the toy of this invention, a single body, comprising moulded foamed natural or synthetic rubber latex material over a wire skeleton, may be used to produce a range of soft toys of essentially the same nature but of different characteristics so far as the head, foot and hand members are concerned. Thus, the head member may be cut and stitched from

fabric to be a *facsimile* of a human head or different forms of animal head, or caricatures thereof, after the stitched fabric has been stuffed with an appropriate stuffing material. In a similar way, the fabric may be cut and stitched to form the hand and foot members, when stuffed with a stuffing material, to be of a desired shape appropriate for instance for the form of head being used, or indeed any other desired shape and form. For example, the 'hand' and 'foot' members may be in the form of similar paws.

The fabric covering for the body need not be made all of one fabric. For instance, different fabrics may be cut and stitched together to provide "clothes" of different colours — for instance, "trousers" for the lower regions and leg (or hind leg) limb portions of the body and a "shirt" for the upper region and arm (or fore leg) limb portions of the body.

The hand and foot members may be formed from the same fabric as the covering for the immediately adjacent limb portions, though it is preferred to provide the covering for the hand and foot members from a different fabric, either different in colour alone or possibly different in texture as well as colour and stitched to the fabric covering the adjacent limb portions. Similarly, the head member may be formed from a different fabric from that of the torso covering, either in colour alone or possibly in texture also and stitched to the fabric of the torso covering. Especially for the head member, a plurality of different materials may be used to define different parts of the member. It is particularly preferred to employ relatively smooth fabric coverings for the torso and limb portions, whereas the hand, foot and head members are advantageously of a softer, pile fabric. Nevertheless, for soft toys having an animal-like head portion, it is preferred for at least the head member to be of a long pile fabric — that is, a fur fabric — and of course the body may also have a fabric covering of a fur fabric if desired.

To add to the attraction of the soft toy, preferably the head member has added decoration, so as to represent more closely a humanoid or animal face. For instance, glass, moulded plastics or fabric eyes may be attached to the head member at appropriate points, as well as representations of a nose and mouth. By appropriate shaping of these elements, the finished soft toy may convey the impression of a particular "mood", such as happiness.

It is also preferred for the head member to have attached thereto further pieces of fabric to represent ears, especially when the head member is shaped to have the form of an animal normally associated with large ears, such as a dog's head or rabbit's head.

When making soft toys by the above-

described prior art process, the foamed natural or synthetic rubber latex material must be of a relatively high density to give the finished toy sufficient resistance to tearing, such as the toy might encounter when in use. By covering the toy with a fabric in accordance with this invention, the fabric adds greatly to the strength of the toy, and protects the foamed body. Thus, there is the possibility of using a relatively low density foamed natural or synthetic rubber latex material, leading to a lighter toy which is more economic to produce.

The wire skeleton is preferably of aluminium wire and conveniently is coated with a plastics material. Advantageously, the skeleton is formed from one continuous length of wire, the two free ends being arranged to lie side-by-side, a plastics clip coupling and protecting the two free ends. Plastics clips may also be provided to hold together two portions of the wire skeleton where the wire portions run side-by-side. Such a skeleton is found to be entirely safe in use, even if the fabric covering of the toy as well as the foamed latex material itself should be handled so roughly as to be ruptured.

The fabric covering preferably loosely fits over at least the limb portions of the body and advantageously over the torso as well, in a generally similar manner to clothes for humans, but is permanently arranged — for instance by sewing all the covering parts together — so as to prevent removal of the covering. Such a loose fabric covering allows the body to be deformed as required without placing strains on the fabric covering or on the foam body. There is also the advantage of greater realism for certain designs, as compared to conventional soft toy manufacturing techniques, as well as the possibility of making a relatively large toy but employing less stuffing material than conventionally has been used.

By way of example only, one specific embodiment of soft toy constructed in accordance with this invention will now be described, reference being made to the accompanying drawings, in which:—

Figure 1 is a diagram showing a wire skeleton for a soft toy of this invention;

Figure 2 is a perspective view of a body for use in the soft toy; and

Figure 3 is a perspective view of a completed soft toy constructed in accordance with this invention.

Referring initially to Figure 1 of the drawings, there is shown a pre-formed wire skeleton for use in producing a foamed natural or synthetic rubber latex body. The wire is of annealed, high-purity aluminium and is covered with polyvinylchloride (PVC); a single strand is bent and shaped to provide two runs in each of the four limb portions

and in the spine portion 12. Moulded plastics clips 13 hold the runs together in each limb portion 11, and glued on to the two ends of the wire 10 is a moulded plastics cap 14. The wire is relatively soft and can be bent a great number of times without suffering from fatigue. The PVC covering on the wire, the clips 13 and cap 14 make the toy safer, should the fabric covering and foamed body (both described below) become torn. The adhesive used to hold the cap 14 on to the free ends of the wire should be selected to form a permanent bond with the PVC covering, and this is an important safety feature since it positively prevents the possible exposure of the ends of the wire. At the ends of the limbs, the wire is rounded between the turns of the wire, and again sharp ends are avoided.

Figure 2 of the drawings shows a completed body utilising the wire skeleton of Figure 1. The body comprises a torso 15 having four limb portions, in the form of two arms 16 and two legs 17, depending therefrom. Projecting from the torso 15 adjacent the two arms 16 is a neck portion 18. The body is formed from foamed natural or synthetic rubber latex moulded around the wire skeleton, the moulding of the foamed material and appropriate grades of such material being well known and understood in the art and will not be described in detail here.

Referring now to Figure 3, there is shown a completed soft toy of this invention, which employs a body as shown in Figure 2. As can be seen from Figure 3, the body of Figure 2 has been covered with fabric suitably cut and stitched to fit loosely but permanently on the body. A first material is used to cover the arms 16 and upper portion of the torso 15, so as generally to represent a shirt, and a second material is used to cover the lower portion of the torso 15 and the legs 17, so as generally to represent trousers. Stitched to the lower end of each trouser leg respectively is a further fabric material pre-shaped, sewn and stuffed with a relatively firm but resilient material so as generally to take the form of a foot 19. In a similar way, stitched to the free end of each arm of the shirt are pieces of fabric pre-shaped by cutting and sewing and then stuffed with a relatively firm but resilient material so as to represent a hand 20. The moulded foam material of the body is arranged to press on the material used for stuffing the hands and feet generally in the region of the 'wrists' and 'ankles' respectively, so that the hands and feet may be moved relative to the body without unduly straining the foamed natural or synthetic rubber latex material of the body. Moreover, the stuffed hands and feet prevent end-loads being imparted to the foamed latex limbs, and in turn this reduces

the probability of the wires penetrating the ends of the latex body.

Also stitched to the shirt is a head 21, formed by cutting fabric in an appropriate manner and stitching the pieces together, the cut and stitched fabric then being stuffed with a relatively firm but resilient material.

As can be seen from the drawing, by appropriate cutting, stitching and stuffing, the head 21 may take the form of a stylised animal's head — in this case a stylised dog's head. The effect of the head 21 is enhanced by attaching thereto further fabric portions to represent ears 22, eyes 23, and a nose 24 and mouth 25. The neck portion 18 of the body is arranged to project into the head, in a recess in the stuffing thereof, so that the head portion is relatively firmly attached to the body and does not tend to flop to one side or another relative to the body when the soft toy is held in the normal, upright attitude.

It will be appreciated that the fabric material used for covering the various portions of the body as well as for forming the hands, feet and head may be the same or may be different, so far as texture or colour are concerned. It is in fact preferred to use at least materials of contrasting colours, and advantageously different surface finishes on the fabrics are also used. In a preferred arrangement, the head portion and hands are made from a nylon fur fabric, whereas the shirt, trousers and feet are made from a brushed nylon fabric. By employing such materials, the overall soft toy may be washed, should it become soiled.

The stuffing for the head, hands and feet preferably comprises synthetic foam chipplings, which will permit the washing of the completed article, should it become soiled. Clearly, by stuffing the head portion, hands and feet to different degrees, and by employing suitable grades of foam chipplings, the said portions may be given any required degree of resilience.

It will be appreciated that other forms of head may be stitched to the shirt, and indeed differently shaped hands and feet may be stitched to the shirt and trousers respectively. In this way, a range of generally similar soft toys but of different characters may be produced all employing the same basic body but merely covered with differently formed fabrics. In this way, a range of soft toys may be produced at considerably less cost than if separate moulds were to be produced for each member of the range.

#### WHAT WE CLAIM IS:—

1. A soft toy comprising a body and a fabric covering, the body having a torso, four limb portions and a neck portion formed by moulding a foamed natural or synthetic rubber latex material over a flex-

- ible wire skeleton, and the fabric covering being permanently fitted over the body and including hand and foot members at the respective ends of the limb portions and a  
5 shaped head member which fits over the neck portion, the hand, foot and head members being stuffed with a stuffing material such that the hand, foot and head members hold a desired, pre-formed shape dictated  
10 by the fabric covering.
2. A soft toy as claimed in claim 1, wherein the skeleton is formed of an annealed aluminium wire covered with polyvinylchloride.
- 15 3. A soft toy as claimed in claim 1 or claim 2, wherein the skeleton is formed from a single length of wire, the two free ends of the wire lying adjacent one another and held together by means of a clip of plastics material.
- 20 4. A soft toy as claimed in any of the preceding claims, wherein the fabric covering for the body is made up from a plurality of different fabrics.
- 25 5. A soft toy as claimed in claim 4,

wherein a relatively smooth fabric is used for covering the torso and limb portions whereas the hand, foot and head members are covered with a relatively soft, pile fabric.

6. A soft toy as claimed in claim 5, 30 wherein the head member is covered with a fur fabric.

7. A soft toy as claimed in any of the preceding claims, wherein the head member has added decoration, so as to represent 35 more closely a humanoid or animal face.

8. A soft toy as claimed in any of the preceding claims, wherein the hand, foot and head members are stuffed with synthetic foam chippings.

9. A soft toy as claimed in claim 1, and 40 substantially as hereinbefore described, with reference to and as illustrated in the accompanying drawings.

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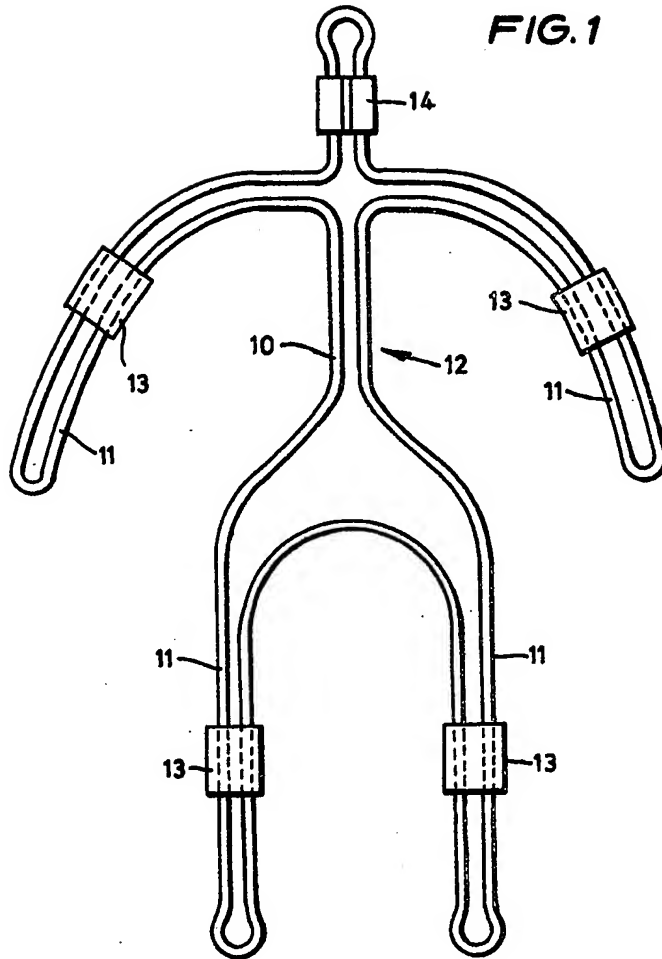
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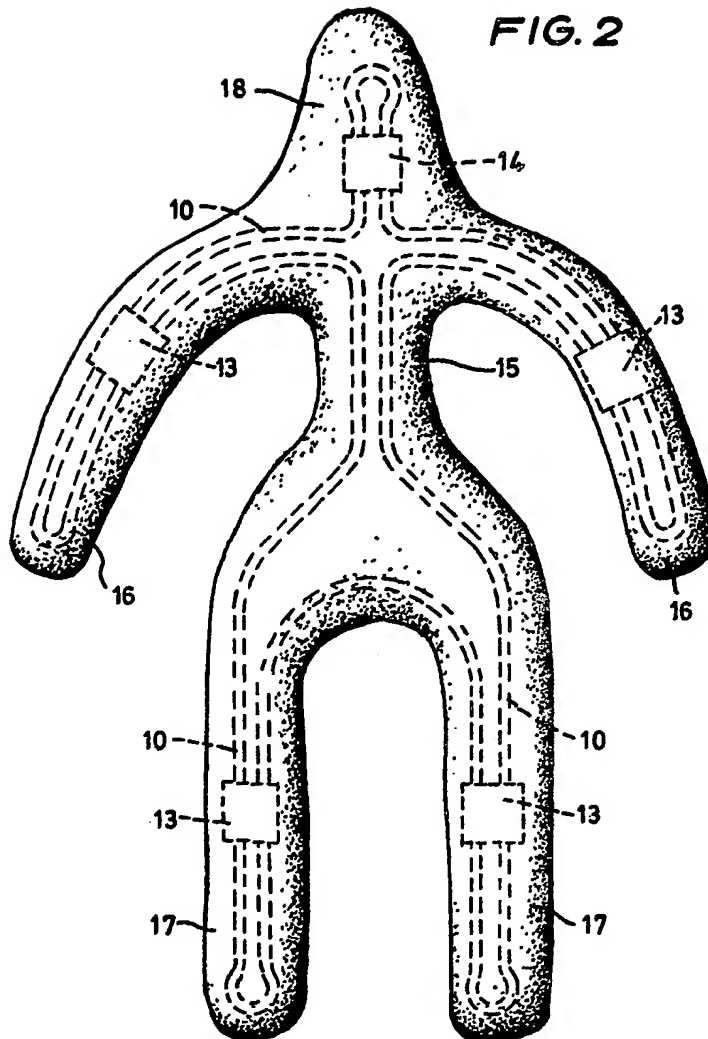
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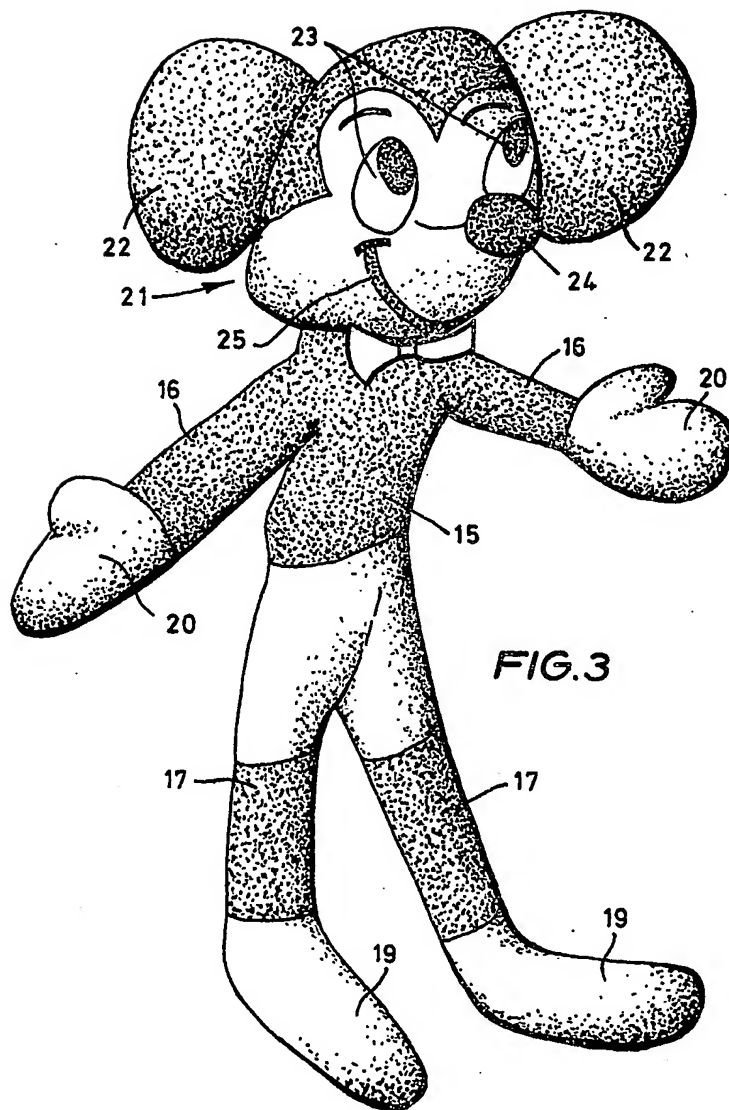
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**FIG. 1**





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